

i 41603-66

ACC NR: AF6018555

system of  $\pi$  electrons of the  $F_I$  atoms together with the  $\pi$  electrons of the  $La$  atoms form a conjugated system of bonds similar to the  $\pi$ -bonds in graphite. This explains the metallic character of the reflection of light from the cleavage plane of  $LaF_3$  observed experimentally. The authors thank P. P. Feofilov and B. I. Maksakov for supplying the  $LaF_3$  crystals and A. I. Livshits for help with recording and processing the spectra. Orig. art. has: 3 figures and 7 formulas.

SUB CODE: 20/ SUBM DATE: 29Nov65/ ORIG REF: 002/ OTH REF: 013

Card 2/2

L 05023-67 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/WW/HW/JG/GG

ACC NR: AP6032465

SOURCE CODE: UR/0056/66/051/003/0707/0710

AUTHOR: Gabuda, S. P.; Lundin, A. G.; Gagarinskiy, Yu. V.; Batsanova, L. R.;  
Khripin, L. A.

ORG: Institute of Physics, Siberian Branch, Academy of Sciences SSSR (Institut  
fiziki Sibirskogo otdeleniya Akademii nauk SSSR); Institute of Inorganic Chemistry,  
Siberian Branch, Academy of Sciences SSSR (Institut neorganicheskoy khimii  
Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Nuclear magnetic resonance and hyperfine interaction in crystals of the  
tysonite structural type

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 3, 707-710

TOPIC TAGS: nuclear magnetic resonance, hyperfine interaction, hyperfine  
interaction constant, hyperfine coupling constant, crystal symmetry, tysonite type  
crystal, fluorine nucleus, fluorine compound, trifluoride, cerium trifluoride,  
praseodymium trifluoride, neodymium trifluoride, uranium trifluoride

ABSTRACT: The magnetic resonance spectra of  $F^{19}$  nuclei in cerium trifluoride,

Card 1/2

L 05023-67

ACC NR: AP6032465

praseodymium trifluoride, neodymium trifluoride, and uranium trifluoride polycrystalline samples were studied. The averaged values of local magnetic fields near the fluorine nuclei were determined, and values of hyperfine coupling constants  $F^{19}$  nuclei with unpaired electrons were estimated. It was shown that the hyperfine interaction constant in cerium trifluoride is zero, whereas the constant  $A_n$  significantly differs from zero for praseodymium trifluoride, neodymium trifluoride, and uranium trifluoride. The results obtained were interpreted on the basis of symmetry properties of the investigated crystals. The authors thank L. G. Falayeva for preparing all calculations by computer. Orig. art. has: 2 figures. [Based on authors' abstract]

SUB CODE: 07, 20/ SUBM DATE: 11Jan66/ ORIG REF: 002/ SOV REF: 001/  
OTH REF: 021/

Card 2/2 *LC*

LENDIN, B.N.; SUKHONOSOVA, T.I.

Separation and determination of halogens when they are present  
together in organic compounds, Zhur. aral. khim. 19 no.6:742-745  
'64. (MIRA 18:3)

1. Institut khimii Ural'skogo filiala AN SSSR, Sverdlovsk.

LUNDIN, K. P.

Peat

Tensile strength of peat. Sbor. nauch. trud. Inst. torfa AN SSSR no. 1, 1951.

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.

LUNDIN, K.P., kandidat tekhnicheskikh nauk

Operating moisture content in the working section of a peat bog.  
Trudy Inst.torf. AN BSSR no.2:80-113 '53. (MIRA 8:11)  
(Peat bogs)

LUNDIN, K.P., kandidat tekhnicheskikh nauk.

Volumetric weight of a peat deposit in relation to water content.  
Trudy Inst.torf. AN BSSR 4:163-187 '55. (MLRA 9:3)  
(Peat bogs)

LUNDIN, K.P., kandidat tekhnicheskikh nauk.

Operational water content and norms for the drying of milled-peat  
fields. Trudy Inst.torf. AN BSSR 4:188-204 '55. (MLRA 9:3)  
(Peat)



Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 8,  
p 177 (USSR) 15-57-8-11353

AUTHOR: Lundin, K. P.

TITLE: Density of Peat as Related to Its Ash Content  
(Ob'yemnyy ves torfa v zavisimosti ot zol'nosti)

PERIODICAL: Tr. In-ta torfa AN BSSR, 1956, Vol 5, pp 165-175

ABSTRACT: Peat is a three-phase physical mixture consisting of a solid substance, water, and air. The density of peat is determined by the relation between these three components. The specific moisture content changes with the ash content. The data in the literature on this subject do not establish a general relation between the density of peat and its ash content. The analytical expressions of V. G. Goryachkin and A. F. Pechkurov on the effect of ash content upon density of peat are inadequate for establishing of a general

Card 1/3

15-57-8-11353

Density of Peat as Related to Its Ash Content (Cont.)

relationship between these two properties. S. A. Sidiyakin's tables for lowland peat in deposits with an ash content of 10 to 40 percent, as revised by S. V. Kudriumov of the Ukrinstopliv [Ukrainian Institute of Combustible Matter (?)], establish a quantitative relation between the density of peat and its ash content. The materials used in these investigations consisted of once-processed wood and cane peat with a degree of decomposition of 40 to 45 percent, and a uniform sand with a particle diameter of 0.25 to 0.5 mm. The peat was carefully mixed with weighed portions of the sand for the purpose of increasing the content of impurities. Cylindrical specimens with a diameter of 69 mm and a height of 65 mm were prepared from the test material. These were first air-dried and then dried in a desiccating cabinet at 105° C. to a constant weight. The tests were run twice. According to the results, the effect of ash content on the density of peat is nonuniform. It is small up to 60 percent ash content and is most pronounced for ash content above 60 percent. The density of peat in the deposit increases by 0.0015 to 0.0020 ton/cu m with an increase of 1 percent in ash content for ash contents not exceeding

Card 2/3

Density of Peat as Related to Its Ash Content (Cont.)

15-57-8-11353

60 percent. The author discusses the case of introducing into the peat bog of mineral particles from the outside, in connection with the establishment of a general relationship between density and ash content. He determines the nature of the relation of moisture content to ash content of peat in the deposit, and comments on the considerably higher values obtained by S. V. Kudriumov for increase in density with each 1 percent of increase in ash content. These higher values are attributable to the fact that Kudriumov, following Sidyakin, assumed the variation of density of peat in the deposit to be the same as for a piece of cut peat. This assumption is incorrect.

Card 3/3

A. A. Kostin

GORYACHKIN, V.G.; LUNDIN, K.P.

Solidity of upper layers of the peat deposit in milled-peat bogs.  
Trudy Inst. torf. AN BSSR 6:438-451 '57. (MIRA 11:7)  
(Peat bogs)

LUNDIN, K.P., kand.tekhn.nauk

Moisture properties of the peat deposit in connection with its  
drying. Torf.prom. 36 no.3:12-16 '59. (MIRA 12:7)

1. Belorusskiy nauchno-issledovatel'skiy institut melioratsii i  
vodnogo khozyaystva.  
(Peat bogs) (Drainage)

LUNDIN, K.P.

Water absorption of peat. Trudy inst. torf. AN BSSR 8:221-244  
'59. (MIRA 13:12)

(Peat bogs)

GALENCHIK, I.Z.; LUNDIN, K.P.

Some water-absorption and water-loss characteristics of sapropel  
from the "Kolpenitsa" extensive peat deposits. Trudy Inst. torf.  
AN BSSR 9:77-82 '60. (MIRA 14:2)  
(White Russia--Peat) (Sapropel)

ZUBETS, V.M., otv. red.; LASHKEVICH, G.I., red.; PECHKUROV, A.F.,  
red.; IVITSKIY, A.I., red.; BEL'SKIY, B.B., red.; LUNDIN,  
K.P., red.; MISHANOVA, Ye.A., red.; TIMOSHCHUK, R.S.,  
tekhn. red.

[Draining and utilizing peat-bog soils] Osushenie i ispol'-  
zovanie torfiano-bolotnykh pochv. Minsk, Gos.izd-vo sel'-  
khoz.lit-ry BSSR, 1963. 316 p. (MIRA 16:12)  
(Peat soils) (Drainage)



10

*Ca*

2-Methyl-1,4-naphthoquinone. N. P. Lundin, U.S. Pat. 2,460,480, June 30, 1949. Vitamin K<sub>2</sub> is produced by oxidizing 2-C<sub>11</sub>H<sub>16</sub>Me with K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> in aq. H<sub>2</sub>SO<sub>4</sub> at 92-94°. The yield of vitamin K<sub>2</sub> by this method is higher than when AcOH is used as medium. M. Hoesch

Obtaining pure acetic acid from the commercial grade. N. P. Lundin. *Farmlatsya* 9, No. 2, 39(1948).—Mix com. AcOH with its own vol. of water, add 1% of active C or 4% charcoal from deciduous trees, boil 10-15 min., filter, and distil. An equal effect is obtained by filtration through a thick layer of powd. active C, sepl. from the funnel wall by a layer of cotton batting. J. P. Smith

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM 579-05100

RECEIVED ONE COPY 1951

LUNDIN, N. P.

PA 4/49T21

USSR/Chemistry - Pycnometers  
Chemistry - Density, Measurement of

Apr 48

"Modification of an Ostwald Pycnometer," N. P. Lundin  
Ukrainian Experimental Endocrinol Inst,  $\frac{1}{2}$  p

"Zavod Lab" Vol XIV, No 4

Determination of specific gravity by Ostwald pycnometer is often a lengthy process since it must be filled to exact level of mark. In Lundin's modification, one limb of the apparatus becomes a graduated micropipette. Describes method of calibration with sketch.

4/49T21

LUNDIN, Stig

Weldability and the problems of cracks in welding nonalloyed  
and low-alloyed steels. Pt. 2. Zavarivanje b no. 11: 242-  
254 N '63.

Lundin, S.P.

Classification of industrial hydrogen sulfide-absorbing media by thermodynamic properties. M. S. Litvinenko and S. P. Lundin; (Ukrain. Sci. Research Inst. and Pharm. Inst., Kharkov). *Zhur. Priklad. Khim.* 29, 543-8 (1956).  
 The free energy  $\Delta F_{298}^\circ$  of the reactions of the following with  $H_2S$  are tabulated as: triethanolamine, +15.60; monoethanolamine, +9.32;  $PhONa$ , +2.95;  $K$  dimethylaminoacetate, -0.40;  $Na_2CO_3$ , -3.42;  $K_2CO_3$ , -3.42;  $K_3PO_4$ , -5.48. Correlation of these free energies with the vapor pressure, dissociation constants, and the difference in solubilities in a temp. range suitable for absorption and stripping leads to the conclusion that the free energies of an economic absorber must be between +15.60 and -1.00 preferably be 0.

2

I. Bencowitz

pm

AUTHORS: Postovskiy, I. Ya., Lundina, I. B. SOV/79-29-2-54/71

TITLE: On the Tautomerism of Acyl Derivatives of 2-Aminothiazole  
(K tautomerii atsil'nykh proizvodnykh 2-aminotiazola)

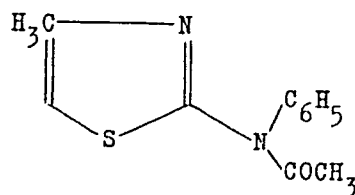
PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 608-615 (USSR)

ABSTRACT: Publications describe two different acetyl derivatives of 2-aminothiazole. One compound (melting point at 114°) was synthesized by G. Joung and S. I. Crooks, the other one (melting point at 174°) by C. D. Hurd and N. Khlarach (Refs 1,2). The first one was synthesized by acetylating the amine with acetic acid anhydride in the presence of sodium acetate, and the second by reacting the same anhydride with the amine under addition of concentrated sulfuric acid. Since 2-aminothiazole can react in form of the amino and imino structure it could be presupposed that under various conditions of acetylation the isomeric compounds of the structure (A) and (B) are formed and correspond to the two tautomeric forms of 2-aminothiazole:

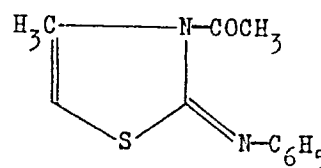
Card 1/3

On the Tautomerism of Acyl Derivatives of  
2-Aminothiazole

SOV/79-29-2-54/71



(A)



(B)

On checking this presupposition it was of interest to clarify at the same time, whether also other 2-aminothiazole derivatives could yield two isomeric acetylation products. For this purpose the 2-aryl aminothiazoles (I-V)(Table 1) were acetylated under various conditions, in the presence of sodium acetate and concentrated sulfuric acid. Two acetyl derivatives (a) and (b) (Table 1) were obtained here for each amine, depending on the addition. Thus the results were as follows: 2-methyl and 2-phenyl aminothiazoles yield on acetylation under various conditions two isomeric acyl derivatives, corresponding to the two tautomeric forms of

Card 2/3

, On the Tautomerism of Acyl Derivatives of  
2-Aminothiazole

SOV/79-29-2-54/71

2-aminothiazole. Spectroscopic data show that the low-melting acetyl derivative represents the amide, and the high-melting one the imine. It was further found that also similarly structured heterocyclic compounds are capable of tautomerism and under the same conditions allow only one acetyl derivative to form (derivatives of aminothiodiazole, 2-amino pyridine, and others belong to this group). Low-melting acyl derivatives are shown to pass over to high-melting isomers in the presence of acetic acid and propionic acid anhydride, as well as of sulfuric acid. There are 2 figures, 3 tables, and 11 references, 2 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnic  
Institute)

SUBMITTED: January 8, 1958

Card 3/3

LUNDINA, I. B., GAND CHEM SCI, "THE CHEMISTRY OF 2-AMINOTHIAZOLE (DUAL REACTION OF CERTAIN DERIVATIVES OF 2-AMINOTHIAZOLE)". SVERDLOVSK, 1961. (MIN OF HIGHER AND SEC SPEC ED RSFSR. URAL STATE UNIV IM A. M. GOR'KIY, CHAIR OF ORG CHEM). (KL, 2-61, 200).

-28-



LUNDINA, M. G.      Cand. Tech. Sci.

Dissertation: "Influence of Wetting Clays with Steam on Their Drying and Physico-mechanical Properties." Moscow Technological Inst of Light Industry ineri L.M. Yagorovich, 10 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)

COMMON VARIABLE INDEX		COMMON VARIABLE INDEX	
<p>2409. ALL UNION CONFERENCE ON IMPROVEMENT OF DRYING PROCESSES IN CERAMIC INDUSTRY. Nosova, ZA., Lundina, MG., Kaganskaya, EK and Nokhratation, KA (Strek. Keram., 1948, vol. 5, (12), 20). Various reports on the subject are briefly mentioned. ZA Nosova stated that clays of low sensitivity to drying are characterized by a long range during which water can be evaporated without shrinkage, this range is very short with sensitive clays. This led to the development of a formula for the sensitivity of clays to drying:</p> $kg = \frac{\text{volume shrinkage}}{\text{volume of pores}}$ <p>Mg. Lundina communicated the results of her laboratory and plant work on steaming; the process promotes a uniform distribution of moisture in the material, improves the moulding properties and density, and raises the strength of the products. EKH Kaganskaya recommended conveyor dryers for thin walled products. EA Nokhratation suggested that air should be used for drying in preference to flue gases. Counterflow tunnel dryers were regarded as the type to be generally adopted. <i>over</i></p>			
<p>ASB-514 METALLURGICAL LITERATURE CLASSIFICATION</p>			

LUNDEN, M.G.

30335

Parouvlazhinyeniye goin pri proizvodstve kirpicha. Trudy Obshchyesoyuz. nauch. -  
isslyed. in-ta stroit. kyeramiki, vyp. 1, 1949, s. 3 - 60. Bibliogr: 26 nazv.

SC: LETOPIS' No. 34

LUNDINA, M.G.K.

30334

Voprosu ispol'zovaniya shamota pri proizvodstve kirpicha. Trudy Obshchyesoyuz. nauch -  
isslyed. in-ta stroit. kyeramiki, vyp. 1, 1949, s. 116-26

SC: LETCPIS' No. 34

LUNDINA, M.G.

30336

Razrabotka 5y3khnolutfi p4oiavodstva ploskoy lyentochnoy chyeryepitsy. Trudy Obshchyesoyuz. nauch. - isslyed. in-ta stroit. kyeramiki, vyp. 2, 1949, s. 39-49

SG: LETCPIS' No. 34

1ST AND 3RD COLUMNS										2ND AND 4TH COLUMNS									
PROCESSES AND PROPERTIES INDEX																			
C										6									
<p>Reducing the drying period of brick by steaming the clay.  M. G. LYNDINA. <i>Sichlo i Keram.</i>, 7 [3] 15-17 (1950).--The  steaming of clay reduced the drying period by 20 to 50%; and also  improved the product. Moistening and swelling of the mix were  accelerated and improved; moldability was better, and the  strength of the green product was higher. In addition to ordi-  nary presses, the method is also applicable to vacuum presses.  The optimum heating of the green product is 45° to 55°C., and  steam pressure is 0.5 atm. Steam should be fed uniformly  along the entire length of the pug mill, through tubes with 3-mm.  openings or through tubes with needle-like jets. The method was  particularly effective in the case of clays highly sensitive to drying.  B. Z. K.</p>																			
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>1ST COLUMN</p>										<p>2ND COLUMN</p>									
<p>3RD COLUMN</p>										<p>4TH COLUMN</p>									

LUNDIN, V. A.

Proizvodstvo i kontrol' proizvodstva kirpicha i pustotelykh blokov [Production and production control in the manufacture of bricks and hollow blocks]. Moskva, Ugletekhizdat, 1951. 108 p.

SO: Monthly List of Russian Accessions, Vol. 6 No. 11 February 1954

LUNDINA, M. G.; YUSHKEVICH, M. G.; SUKHOV, P. V.

Brick Houses

House from prefabricated ceramic elements. Trudy Niistrotekramika, No. 5, 1951.

MONTHLY LIST OF RUSSIAN ACCESSIONS. Library of Congress, April 1952. UNCLASSIFIED.



LUNDIA, H.G.

Measure of shrinkage time in brick driers, M. G.  
Lundia, *Trudy Inzheneriya Tekhnol. Proizvoda* (1951), 3-67(1951).—Brick prod. by pre-drying brick  
clay to 15-16% moisture (instead of up to 34%) can be  
pressed at 20-30 kg./sq. cm. to yield a superior product.  
Steam drying at 40-60° reduces drying time by 30-50%.  
C. H. Fuchsman

ACA

*Belov*

Reducing the drying period of green brick. M. G. Lysytsa. *Steklo i Keram.*, 8 [7] 15-19 (1951).--Various means were investigated such as hollow brick, vacuum, fillers, dehydration of clay, and reduced moisture content of mix. The steaming of mix, with a temperature rise to 40°-50°, will reduce the drying period by 30 to 50%. In order to reduce the drying period by 4 or 4 times and assure a drying period not over 24 hr., it is necessary to add coarse- and medium-grained sand, grog, or other fillers in amounts of 30 to 50% and employ vacuum and also steaming. If an insufficient amount of filler is used, the drying process can be accelerated by using dehydration and thermal treatment of clay at 400° to 500°. In making hollow brick, the drying period can be reduced by 25% and more. The addition of dehydrated clay with a simultaneous reduction of the drying period makes it possible to accelerate the firing process and reduce the production cycle to 30-48 hr. *Cf. Ceram. Abstracts*, 1951, Jan., p. 84.

B Z K

- [illegible]

*LUNDINA, M. G.*

USSR Engineering - Ceramic materials

Card 1/1 Pub. 104 - 3/8

Authors : Beznosikova, A. V.; Yakovleva, M. E.; and Lundina, M. G.

Title : Changes in phase composition during the kilning of goods made of easily fusible clay

Periodical : Stek. 1 ker. 3, 7-11, Mar 1955

Abstract : An investigation was conducted to determine the changes in phase composition of easily fusible clays of various mineralogical composition and kilning sensitivity during the heating process. The basic admixtures of easily fusible clays were quartz, carbonates, mica, ferrous hydroxide, field spar, epidote, etc. The results obtained are described. Four USSR references (1938-1951). Tables

Institution : .....

Submitted : .....

LUNDINA, M.G.

Study of the firing process of low-melting clay products. Stek.1  
ker. 13 no.5:20-24 My '56. (MLRA 9:8)

1. Nauchno-issledovatel'skiy institut Stroykeramiki.  
(Ceramics) (Clay)

LUNDINA, M.G.

Clay dehydration. Stek. 1 ker. 14 no.9:18-21 S '57. (MIRA 10:10)

1. Obshchесоyuznyy nauchno-issledovatel'skiy institut stroitel'noy  
keramiki, (MIRA 10:10)  
(Clay) (Dehydration (Chemistry))

LUNDINA, Miriam Grigor'iyevna; BERENSHTEYN, Patsya Iosifovich; BLOKH,  
Grigoriy Semenovich; GRINBERG, S.M., red.; GILSONSON, P.G.,  
tekhn. red.

[Semidry press process for the manufacture of bricks] Proizvodstvo  
kirpicha metodom polusukhogo pressovaniya. Moskva, Gos. izd-vo  
lit-ry po stroit., arkhitekt. i stroit. materialam. 1958, 162 p.  
(Pressed brick) (MIRA 11:9)

BLOKH, G., kand. tekhn. nauk; LUNDINA, M., kand. tekhn. nauk; ROKHVARGER, Ye.,  
kand. tekhn. nauk; KATSMAN, L., inzh.

Using combined technological processes in making large clay-  
slag-concrete wall blocks and panels. Stroi. mat. 4 no.11:32-34  
N '58.

(MIRA 11:12)

(Concrete blocks)



LUNDINA, M.G., kand.tekhn.nauk

Investigating physicochemical processes occurring during the  
firing of fusible clay products. Trudy NIISTroikeramiki no.13:  
125-135 '58. (MIRA 12:5)  
(Clay) (Brickmaking)

ROKHVARGER, Ye.L., kand.tekhn.nauk; LUNDINA, M.G., kand.tekhn.nauk;  
SHUR, B.M., inzh.

Working out designs and the technology of production of  
thin-walled panels without using heat-insulating materials.  
Stroi.mat. 6 no.4:7-10 Ap '60. (MIRA 13:6)  
(Building blocks)

KOSHLYAK, L.L., ingh.; LUNDINA, M.G., kand.tekhn.nauk

The role of preparatory moistening in the molding preparation  
of a ceramic mixture. Stroi. mat. 7 no.3:30-32 Mr '61.

(MIRA 14:4)

(Ceramics)

LUNDINA, M.G.; ROSTOVTSEVA, K.I.

Organizing the mass production of ceramic facing tiles.  
Stek. 1 ker. 18 no.6:23-25 Je '61. (MIRA 14:7)  
(Tiles)

LUNDINA, M.G., kand.tekhn.nauk; KOSHLyak, L.L., kand.tekhn.nauk

Choosing the optimum design of efficient ceramic blocks for  
one-layer wall slabs of exterior walls. Stroi. mat. 8 no.8:  
12-14 Ag '62. (MIRA 15:9)  
(Ceramics) (Walls)

GAK, B.N., kand.tekhn. nauk; GERVIDS, I.A., kand. tekhn. nauk; GONCHAR, P.D., inzh.; VASIL'KOV, S.G., kand. tekhn. nauk; YEVNEVICH, A.V., kand. tekhn.nauk; KIPTENKO, A.K., inzh.; LUNDINA, M.G., kand. tekhn.nauk; NAUMCV, M.M., kand. tekhn. nauk; PATRIK, S.A., inzh.; POPOV, L.N., kand. tekhn. nauk; ROGOVOY, M.I., inzh.; SEDOV, V.G., inzh.; SOKOLOV, Yu.B., inzh.; FRANCHUK, K.O., inzh.; KHAYKIN, V.Ya., inzh., nauchnyy red.; CHIBUNOVSKIY, N.G., inzh., nauchnyy red.; NOKHRATYAN, K.A., red. [deceased]; GUZMAN, M.A., red.; QURVICH, E.A., red.; BOROVNEV, N.K., tekhn. red.

[Handbook on the production of structural ceramics]Spravochnik po proizvodstvu stroitel'noi keramiki. Moskva, Gosstroizdat. Vol.3.[Wall and roofing ceramics]Stenovaia i krovel'naia keramika. Pod red. M.I.Naumova i K.A.Nokhratiana. 1962. 699 p. (MIRA 16:1)

(Ceramics) (Building materials industry)

LUNDINA, M.G., kand.tekhn.nauk; Prinimali uchastiye: LOSHLYAK, L.L., mladshiy nauchnyy sotrudnik; YERMOLAYEVA, A.I., mladskiy nauchnyy sotrudnik; SAFRONOVA, Z.A., mladskiy nauchnyy sotrudnik; RAUKHMAN, B.R., inzh.; METLITSKAYA, S.S.; SHISHKONOVA, L.I.; MURAV'YEVA, L.V.

Investigating the processing of clay in making bricks. Trudy NII Stroikeramiki no. 14:3-35 '59. (MIRA 14:1)

1. Obshchesoyuznyy nauchno-issledovatel'skiy institut stroitel'noy keramiki (for Koshlyak, Yermolayeva, Safronova).
  2. Nachal'nik laboratorii Vorontsovskogo kirpichnogo zavoda (for Shishkanova).
  3. Nachal'nik laboratorii Nizhne-Kotel'skogo kirpichnogo zavoda (for Shishkanova).
  4. Nachal'nik laboratorii Moskovskogo eksperimental'nogo zavoda (for Murav'yeva).
- (Clay)

LUNDINA, M.G., kand.tekhn.nauk; KOSHLyak, L.L.; kand.tekhn.nauk; KATSMAN,  
L.M., inzh.

Use of single-layer ceramic panels in experimental building.  
Trudy NIISTroikeramiki no.21:39-54 '63. (MIRA 17:2)



REMPEL', A.M.; SUKHOV, P.V.; KOPEYKIN, A.A., glavnyy red.; ROKHVARGER, Ye.L.,  
zamestitel' glavnogo red.; VASYUTINSKAYA, A.A., red.; GARTSMAN, B.M.,  
red.; ZAYONTS, R.M., red.; LUNDINA, M.G., red.; MOSOVA, Z.A., red.;  
PETROV, N.A., red.; RIVKIN, A.M., red.; ROMANOV, P.R., red.;  
SOKOLOV, P.V., red.; FEYN, Yu.E., red.; KOSYAKINA, Z.K., red.;  
KASIMOV, D.Ya., tekhn.red.

[Research on clay materials] Issledovanie glinistogo syr'ia. Moskva,  
Gosstroizdat, 1963. 119 p. (Kuchino. Gosudarstvennyi nauchno-  
issledovatel'skii institut stroitel'noi keramiki. Trudy, no.22).  
(MIRA 17:3)

MUNDING, M.G., Amer. techn. work; YETTSOLANDIA, A.L., Incl.

Color ceramic stone for finishing facades. Trade KIDICERAMIC  
no. 44:128-132 '64. (MTR 12:7)

LUNDINA, M.G., laureat Gosudarstvennoy premii

Organizing the manufacture of face brick. Stroi. mat. 11 no.5:  
19-20 My '65. (MIRA 18:9)

17 (4), 30 (1)

AUTHORS:

Mokronosov, A. T., Lundina, T. N.

SOV/20-127-4-56/60

TITLE:

On the Problem of the Role of the Dark and Light Period of Night and Day in the Photoperiodic Reaction of the Potato

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 4, pp 924 - 927 (USSR)

ABSTRACT:

Recently, the idea has been accepted that the photoperiodic reaction of short-day plants consists of light and darkness reactions which proceed subsequently and are coupled (Ref 1). The former are connected with photosynthesis (Refs 2-4) and depend on the intensity of light and its spectral composition. The latter depend on dissimilation (Ref 1), the presence of CO<sub>2</sub>, temperature, and the oxygen content of the air (Refs 5-8). The durability and continuity of the darkness reactions are specific properties. It was proved (Refs 5,9,10) that short-day plants need at least a 6-9-hour period of darkness for blooming. In all papers mentioned here the durability and continuity of the darkness reactions were proved by plants which propagate by means of seed. Since the propagation of many short-day plants is carried out by means of specialized organs of vegeta-

Card 1/3

On the Problem of the Role of the Dark and Light  
Period of Night and Day in the Photoperiodic  
Reaction of the Potato

SOV/20-127-4-56/60

tive reproduction it was interesting to investigate e.g. the problem mentioned in the title with regard to the importance of the two periods for the formation of tubers, bulbs, viriparous buds, and other organs. The authors introduced dark intervals in the light period of the day and light intervals in the dark period. Then they investigated their effect on the development of the potato, and especially on tuber-formation. As is known, many uncultivated potato species form tubers only during the short day. Cultivated potato species, however, accelerate tuber-formation during the short day (Ref 13). Although the potato plant is a short-day plant on account of this characteristic the assumption is widespread that it belongs to long-day plants on account of its blooming (Refs 13,14). According to some data (Ref 15) the short day is favorable for generative development. In the years 1957 and 1958 experiments were made with the varieties Lorch and Berlichingen (*Solanum tuberosum*) and *Solanum demissum*. Typical objects of photoperiodic investigations were used for comparison: *Perilla* and *Salat* (*Lactuca sativa*). The variants were: 1) a long day;

Card 2/3

On the Problem of the Role of the Dark and Light  
Period of Night and Day in the Photoperiodic  
Reaction of the Potato

SOV/20-127-4-56/60

natural of the latitude of Sverdlovsk; 2) a short 10-hour day; 3) a short day with 20 minutes darkness in the middle of the day; 4) a short day with 20 minutes illumination during the night. Perilla and Salat reacted in the same way they did with other scientists (Refs 4,5,10,11). Table 1 shows that during the short day the tubers of Solanum were formed 47 - 56 days later than during the long day (Fig 1). The 5 - 7-day acceleration of the tuber-formation of S.tuberosum varieties during the short day is completely reduced by a 20 minute illumination during the night (similar to S.demisum) (Fig 2). The darkness reactions must not be interrupted and cannot be summed up. There are 2 figures, 2 tables, and 15 references, 7 of which are Soviet.

ASSOCIATION: Ural'skiy gosudarstvennyy universitet im. A. M. Gor'kogo  
(Ural State University imeni A. M. Gor'kiy)

PRESENTED: April 3, 1959, by A. L. Kursanov, Academician

SUBMITTED: April 2, 1959  
Card 3/3

LUNDOVA, A.

[Survey of premature births at the I Maternity Clinic in Prague]  
Prehled predcasnych porodu na I. porodnické klinice K.U. v Praze.  
Cesk.gyn. 15 no.1-2:35-46 '50. (CIML 19:1)

1. Of the First Obstetrical and Gynecological Clinic of Charles  
University, Prague (Head -- Prof. K.Klaus, M.D.)

LUNDOVA, A.

"How to Examine and Treat Women Suffering From Erosion of the Portio Vaginalis." p. 206.  
(Casopis Lekaru Ceskych. Vol. 93, no. 8, Feb. 1954. Praha).

East European Vol. 3, No. 6

SO: Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.



LUNDOVA, Anna

URBANEK, Gabriel; DOLEZEL, Bedrich; RAKUSAN, Bohumir; VYSTECIL, Alois;  
ZICHA, Karel; ZICHA, Osvald, Kolektiv RTN; LUNDOVA, Anna, MUDr,  
asistent I. gynekologické kliniky prof. Dr. Klause

Tehrapy of chronic gynecological diseases with the tissue prepara-  
tion Floristen mite (RTN 118) Cas. lek. cesk. 93 no.49:1352-1354  
3 Dec 54.

1. Z vyzkumneho ustavu lecivych rostlin, s II. interni kliniky prof.  
Dr. Vancury a s I. gynekologické kliniky prof. Dr. Klause v Praze  
(PLANTS, therapeutic use  
Hypericum perforatum extract in inflammatory gynecol. dis.)  
(GYNECOLOGICAL DISEASES, therapy  
Hypericum perforatum extract)

LUNDOVA, Anna, MUDr; SOYKOVA-PACHNEROVA, Eva, MUDr; KRUTOVA, Eva, MUDr;  
MACHOLDA, Fr., MUDr

Secondary findings in etiology of genital tuberculosis. Prakt.  
lek., Praha, 35 no.3:54-56 5 Feb 55.

1. I gin. klin. KU, prednosta prof. MUDr K.Klaus (for Lundova,  
Soykova-Pachnerova, Krutova) 2. Plic. kl. KU v Praze; predn.  
prof. MUDr J.Jedlicka (for Macholda)  
(TUBERCULOSIS, FEMALE GENITAL, etiology and pathogenesis  
current findings)

SOYKOVA-PACHNEROVA, E., MUDr.; LUNDOVA, A., MUDr.; MACHOLDA, F., MUDr.

The Middlebrook-Dubos Reaction in the course of treatment of  
tuberculous genitalia. Cesk. gyn. 21-35 no.2:101-106 Mar 56.

1. Z I. gyn. kliniky KU v Praze. Prednosta prof. Dr. K. Klaus  
Z plicni kliniky v Praze. Prednosta prof. Dr. J. Jedlicka.

(TUBERCULOSIS, FEMALE GENITAL, immunol.

Middlebrook-Dubos test.

(HEMAGGLUTINATION

middlebrook-dubos test in tuberc. of female genitalia.

(HEMOLYSIS

same)

*LUNDOVA, ANNA*

LUNDOVA, Anna, MUDr. (Praha 2, Karlovo nam. 499)

~~Trial use of Zambrini's salivary test in gynecological diseases. Cesk.  
gyn. 22[37] no.1/2:76-79 Jan 58.~~

1. I. gyn. klinika Kn v Praze, prednosta prof. Dr. K. Klaus.  
(GYNECOLOGICAL DISEASES, diag.  
Zambrini's salivary test (Gz))

LUNDOVA, Anna; JIROVEC, Otto, akademik; JIRA, Jindrich, C.Sc.; MACHOLDA,  
Frantisek

Clinical evaluation of positive toxoplasmin tests in women with genital tuberculosis and with diseases of suspected tuberculous etiology.  
Cesk. gyn. 26[40] no.10:748-753 D '61.

1. I. gynekologická klinika KU, prednosta prof. dr. K.Klaus Proto-  
zoologická laborator CSAV, prednosta akademik O. Jirovec Klinika pro  
choroby plicní a tuberkulózu KU, prednosta prof. dr. J.Jedlicka, Praha.  
(TUBERCULOSIS FEMALE GENITAL diag)  
(TOXOPLASMOSIS diag)

LUNDUN, A. G.

IA 159T72

USSR/Nuclear Physics - Isotopes, Jan 50  
Nitrogen  
Radioactivity, Nitrogen

"Radioactive Isotopes of Nitrogen," A. G.  
Lundun, M. B. Neyman 36 pp

"Uspekhi Fiz Nauk" Vol XL, No 1

Presents methods for obtaining radioactive nitrogen  $N_7^{12}$ ,  $N_7^{13}$ ,  $N_7^{16}$ ,  $N_7^{17}$ , and discusses their properties, and certain applications in chemistry and biology.

159T72

LUNEGOV, A.N., inzh.

Shaping of key grooves in hollow shafts. Khim. mash. no. 3:34-35  
My-Je '60. (MIRA 14:5)  
(Sverdlovsk--Chemical engineering--Equipment and supplies)

KALACHEV, Yu.A.; BERESNEV, A.T.; LUNEGOV, D.P.

Performance of a kerosene cutter using liquefied gas. Gaz. prom. 6 no.7:  
23-24 '61. (MIRA 17:2)



KALACHEV, Yu.A., inzh.; BERESNEV, A.T., inzh.; LUNEGOV, D.P.

Propane-oxygen cutting by the K-51 petroleum torch. Svar.  
proizv. no.7:37-38 JI '61. (MIRA 14:6)

1. Chelyabinskiy nauchno-issledovatel'skiy institut tekhnologii  
mashinostroyeniya (for Kalachev, Beresnev). 2. Chelyabinskiy  
traktorny zavod (for Lunegov).  
(Gas welding and cutting---Equipment and supplies)

1. GINSBURG, I. P., BORETSKAYA, B. A., OZHEGOVA, A. I., LUNEGOVA, A. N.
2. USSR (600)
4. Polunochnoye Deposits - Manganese Ores
7. Study of the composition of the manganese ores of the Polunochnoye deposit.  
Abstract, Izv. Glav. upr. geol. fon. no. 2, 1947.
9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

GELLER, B.A.; NEYMARK, I.Ye.; RUBANIK, M.Ya.; GRAGEROV, I.P.; POLYAKOV,  
M.V.; RUSOV, M.T.; DAIN, B.Ya.; REKASHEVA, A.F.; STRAZHESKO,  
D.N.; LUNENOK, V.A.; ROYTER, V.A.; SULIMA, L.V.; FOMENKO, A.S.

Aleksandr Il'ich Brodskii, 1895- ; on his seventieth birthday.  
Zhur. fiz. khim. 39 no.6:1540-1541 Je '65.

(MIRA 18:11)

LUNENOK, V.A.

✓ Use of electrostatic ionic adsorption on carbon for separation and purification of radioactive elements. D. N. Strazhesko, V. A. Lunenok, and L. L. Chervyatsova. *Primenenie Elektricheskikh Adsorbentov v Anal. Khim., Akad. Nauk S.S.S.R., Inst. Geokhim. i Anal. Khim.* 1955, 107-17. The method outlined is based on the property of platinized C to adsorb and desorb the same ions depending on its surface charge. The surface charge is controlled by the atm. in which the process, i.e., adsorption or desorption, takes place. This property was applied to the sepn. of radioactive anions from tagged cations by adsorbing the anions in an atm. of air and later desorbing them in an atm. of H<sub>2</sub>. It was also used to purify solns. of radioactive ions from admixts. of heavy-metal cations. An adsorbent used was carbonized phenol-HCHO resin, activated for 8 hrs. at 850° and then for 2 hrs. at 1000° in an atm. of CO<sub>2</sub>. The adsorptive capacity of the adsorbent was tested on a no. of univalent fatty acids. Their adsorption increased from formic to caproic acids, i.e., with their mol. wt. The adsorption of anions in an atm. of air and their desorption in an atm. of H<sub>2</sub> was carried out in a special app. which is described. The radioactivity of solns. contg. radioactive Sr<sup>90</sup> and Pu<sup>239</sup> was measured with a thin-walled Al β-ray tube and of solns. contg. Sr<sup>90</sup>, Ca<sup>45</sup>, and Ag<sup>110</sup> with a mica end-window counter. While the O-adsorbent did not adsorb alkali metals it did remove alk. earths from soln. This is apparently due to formation of carbonates and was successfully prevented by addn. of HCl. Heavy metals, e.g., Pt, Au, Ag, Hg, Cu, etc., are adsorbed on O-carbon adsorbent specifically and their adsorption is not inhibited by acid. This was used for purification of radioactive alkali and alk. earth ions of heavy metals. The adsorption of the latter was carried out in the presence of HNO<sub>3</sub>.

M. Horeh

②

IRM

1-RonL PM

LUNEV, B.S.; KOPNIN, V.I.

Origin of some relief forms in the Kama Valley. Izv. Vses. geog.  
(MIRA 18:1)  
ob-va 96 no.6:517-519 N-0 '64

LUNOVOK-BORMAKINA, V. A.

Investigation of electrochemical adsorption of ions from dilute solutions by the method of faradaic admittance. V. A. Lunovok-Bormakina and D. M. Stanniska. *Doklady Akad. Nauk SSSR*, 1977, Vol. 2, 171. (Russian summary). The adsorption was determined for  $H_2SO_4$  and  $H_3PO_4$  (II, ST, and P\* are the resp. isotopes  $^{33}S$ ,  $^{31}P$ , and  $^{32}P$ ) from solutions of  $10^{-4}$  to  $10^{-2} N$  on C from phenol-aldehyde resins (cf. Dubin, et al., *Colloid Interface Sci.*, 1976, 49, 144) in a CO<sub>2</sub> atmosphere. The exptl. adsorption isotherm,  $\alpha$  vs.  $k$  for  $\alpha$ , was not a linear function. This and the fact that equil. was attained very slowly (more than 2 hrs.) was best explained by the assumption that the change in ionic strength during adsorption affected the capacity of the elec. double layer on C. The data were expressed linearly by  $\alpha = k_1 c^{0.5}$  (for II and  $H_3PO_4$ ),  $1/k_1 = 0.3$  and for  $H_2SO_4$ ,  $0.7$ ; for more dil. solns.,  $10^{-4}$  to  $10^{-2} N$ ,  $\alpha$  was a linear function of c (Henry's law).

Sum 11 ①

~~SECRET~~  
BRODSKIY, A.I.; LUNENOK-BURMAKINA, V.A.

Oxygen exchange between calcium carbonate and water in connection with the problem of the "geological thermometer." Dokl. AN SSSR 101 no.4:715-717 Ap '55. (MIRA 8:7)

1. Chlen-korrespondent AN SSSR (for Brodskiy). 2. Institut fiziche - skoy khimii im. L.V.Pisarzhevskogo Akademii nauk USSR.  
(Oxygen) (Calcium carbonate) (Geochemistry)

LUNONOK-BURMAKINA, V.A.

Action of phenols on the electrochemical adsorption of cations by activated charcoal. D. M. Strazhesko and V. A. Lunonok-Burmakina. *Ukrain. Khim. Zhur.* 22, 472-7 (1956) (in Russian).—When platinized, ash-free, activated C is placed in 0.01N solns. of LiCl, KCl, or CaCl<sub>2</sub> and exposed to a stream of H at 0°, the metal ions are adsorbed. If PhGH, *o*-C<sub>6</sub>H<sub>4</sub>(OH), *m*- or *p*-MeC<sub>6</sub>H<sub>4</sub>OH are present, the adsorption is greatly reduced even for concns. of 0.5%. This is contrary to the action of alcs. and is attributed to the adsorbed phenol producing not a pos. but a neg. potential jump in the adsorption layer and so reducing the neg. potential of the ionic double layer and decreasing the adsorption of cations. If a 0.0005N soln. of CaCl<sub>2</sub> labeled with Ca<sup>45</sup> is used, the presence of PhOH also reduces the adsorption of Ca<sup>++</sup>, but not as much as in a 0.01N soln. This is in accord with the formula  $Cd\phi = \epsilon F dT$ ,  $C$  is the capacity of the double layer,  $\epsilon$  is the charge of the potential-limiting ion ( $\epsilon = 1$  in this case),  $d\phi$  is the change in potential of the ionic double layer, and  $dT$  the decreased amt. of adsorbed ion. At low salt concns.,  $C$  is small, and the same  $d\phi$  produces a smaller  $dT$ .  
—John Howe Scott

Chem 2

PM



*Lunenk-Burmakina, V.A.*

LUNENOK-BURMAKINA, V.A.

Electrochemical adsorption of ions by carbon from nonaqueous solutions with various concentrations of electrolytes. *Ukr. khim.zhur.* 23 no.4:431-436 '57. (MIRA 10:10)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN USSR.  
(Adsorption) (Electrochemistry)

*LUNENOK-BURMAKINA, V.A.*

STRAZHESKO, D.N.; LUNENOK-BURMAKINA, V.A.

The effect of phenols on the electrochemical adsorption of  
ions by activated carbon. Ukr.khim.zhur. 22 no.4:472-477  
'56. (MIRA 10:10)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN USSR.  
(Phenols) (Electrochemistry)

*Lunenok-Burmakina, V. A.*

73-3-3/24

AUTHOR: Lunenok-Burmakina, V. A. and D'yakova, I. F.

TITLE: Isotopic Exchange of Sulphur in Polythionates.  
(Izotopnyy Obmen Sery V Politionatakh)

PERIODICAL: Ukrainskiy Khimicheskii Zhurnal, 1957, vol, 23, No. 3,  
pp. 303-305 (USSR).

ABSTRACT: The isotope exchange of sulphur between tri- and tetrathionates, tetra- and pentathionates and tri- and di-thionates was investigated. A 40% exchange occurred between tri- and tetra-thionates at 100°C. Complete exchange at room temperature takes place in the case of tetra- and penta-thionates. However, no exchange of the sulphite atoms occurred in the case of tri- and di-thionates after 2 hours at 60°C. The exchange of sulphide and sulphite ions of sulphur in tri- and tetrathionates takes place with the same velocity (at the same rate) by the exchange of whole thio-sulphate groups of these polythionates. Table 1 gives the results of tests on active tri-thionate and inactive tetra-thionate, table 2 the exchange of inactive trithionate and tetrathionate in which the sulphide sulphur was tagged. There are 2 tables and 11 references, 6 of which are Slavic.

Card 1/2

73-3-3/24

Isotopic Exchange of Sulphur in Polythionates.

SUBMITTED: December, 21, 1956.

ASSOCIATION: Institute of Physical Chemistry imeni L.V. Pisarzhevsky.  
(Institut Fizicheskoy Khimii im. L.V. Pisarzhevskogo  
AN USSR.)

AVAILABLE: Library of Congress.

Card 2/2

*LUNENOK BURMAKINA, V.A.*

LUNENOK-BURMAKINA, V.A.

Electrochemical adsorption of ions by carbon from nonaqueous  
solutions with various concentrations of electrolytes. Ukr.  
khim.zhur. 23 no.4:431-436 '57. (MIRA 10:10)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN USSR.  
(Adsorption) (Electrochemistry)

LUNENOK-BURMAKINA, V. A.

79-2-7/58

AUTHOR: Lunenok-Burmakina, V. A.

TITLE: Study of Polythionate Reactions by Means of Labeled Sulfur. Part 3.  
Reaction of Hexathionate (Izucheniye reaktsiy politionatov s pomoshchyu  
mechenoy sery. III. Reaktsiya gekstationata)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 311-315 (U.S.S.R.)

ABSTRACT: Employing marked S, the author investigated the reactions leading to the formation of hexathionates from thiosulfate, nitrite and hydrochloric acid, from sulfur monochloride and thiosulfate as well as the reaction of decomposing hexathionate with potassium cyanide, ammonia and potassium sulfite. The reaction mechanism is explained. It was found that the radioactive marker introduced into the hexathionate was unchanged. The absence of interchange in the polysulfide chain of polythionate sulfur was established. This allows one to obtain higher polythionates in which not all sulfide sulfur atoms are marked but only a part of it which may facilitate the explanation of the complex reaction mechanisms of higher polythionates. The activity of the sulfide sulfur atom of the decomposition products was 90% of the radioactivity of the initial S. Summary

Card 1/2

*Lunenok-Burmakina, V. A.*

20-5-23/54

AUTHOR: Brodskiy, A. I., Corresponding Member of the Academy,  
Franchuk, I. F., and Lunenok-Burmakina, V. A.

TITLE: The Study of the Mechanism of the Electrolytic Formation and  
Hydrolysis of Persulfates by the Isotopic Method  
(Izucheniye mekhanizma elektroliticheskogo obrazovaniya i gidro-  
liza persul'fata izotopnym metodom)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 5, pp. 934 - 937  
(USSR)

ABSTRACT: Various mechanisms, which had been recommended for the anodic  
formation of persulfates by sulfate electrolysis can be classed  
into 2 types: 1.) According to the most usual conceptions, per-  
sulfate is formed by a direct recombination of the discharging  
sulfate- (or bisulfate-) ions. 2.) According to other opinions  
water oxidation products ( $H_2O_2$ ,  $OH$ ,  $OH^-$ , surface oxides, etc.)  
are formed primarily on the anode or in the electrolytic layer  
near the anode, which then oxidize the sulfate by electron or  
oxygen atoms. Most of the other mechanisms suggested belong to  
one of the two types, differing only with respect to details of

Card 1/4

20-5-23/5A

The Study of the Mechanism of the Electrolytic Formation and Hydrolysis of Persulfates by the Isotopic Method

the intermediate stages. Frumkin and his collaborators proved that in the electrolysis of a  $K_2SO_4$  solution in  $H_2O^{18}$  in an acid, neutral, or slightly alkaline medium persulfate oxygen is free from surplus heavy oxygen. This makes it possible to reject all those mechanisms in which the participation of water oxygen in the formation of persulfates is presumed. The authors made use of the heavy oxygen isotope in order to clarify the problem of a possible participation of hydrogen peroxide in the anodic formation of persulfates and for the study of the mechanism of persulfate hydrolysis. It was already known that  $H_2O_2$  and  $K_2S_2O_8$  exchange no oxygen with water. Solutions of 40 g  $KHSO_4$  were subjected to electrolysis in 200 ml water through a current of 3 A between platinum electrodes at 10 - 15°. Results: 1.) The persulfate yield decreased abruptly if 10 - 20 g/l  $H_2O_2$  was added to the electrolyte. It then increased in accordance with the decrease of the not decomposed remainder of  $H_2O_2$ . The two anode processes  $H_2O_2$  - decomposition and formation of  $K_2S_2O_8$  apparently take place independently. The intermediate formation of  $H_2O_2$  is doubted. The independence of the two anode processes is confirmed by the electrolyte experiments of  $KHSO_4 + H_2O_2$  in

Card 2/4



20-5-23/54

The Study of the Mechanism of the Electrolytic Formation and Hydrolysis of  
Persulfates by the Isotopic Method

$H_2O^{18}$  with an isotopic analysis of the anodic oxygen (table 1). Also the results obtained by these experiments show that the anodic oxidation of  $H_2O_2$  take place without the participation of water-oxygen. 2.) In order to prove definitely that  $H_2O_2$  does not participate in the anodic formation of persulfate, the authors employed the method of isotopic dilution. It may be seen from all results obtained that neither  $H_2O_2$  nor, apparently the OH radicals can be intermediate product of persulfate formation on the anode, because the former recombine quickly in  $H_2O_2$  by exchanging their oxygen with water. 3.) A mixture of 1,3 - 4 g  $K_2S_2O_8$  with 1 - 3 g 70%  $HClO_4$  or 50%  $H_2SO_4$  was hydrolized at 70° by blowing through steam at 30 torr. As seen from table 3,  $H_2O_2$  had the composition of the water if  $H_2O^{18}$  was used. Thus, the entire oxygen of the  $H_2O_2$  originates from the persulfate oxygen without the participation of water oxygen. In all cases, also in the case of previous works, it was proved that the peroxide bridge is not interrupted and that water oxygen is not incorporated within the decomposition products of (also other) peroxides. A comparison of the data obtained from the authors

Card 3/4

20-5-23/54

The Study of the Mechanism of the Electrolytic Formation and Hydrolysis of Persulfates by the Isotopic Method

shows that in the sequence of transformations

$S_2O_8^{--} \rightarrow SO_5^{--} \rightarrow H_2O_2 \rightarrow O_2$  the peroxide group -O-O- goes over from the persulfate, without undergoing separation, into the final product of its decay, i.e. oxygen. In order to eliminate the secondary exchange between  $HSO_4^-$  or of the  $H_2SO_4$  produced therefrom and water,  $Pb(ClO_4)_2$  was added. This was not fully effective although the exchange became less. This proved that a considerable quantity of  $O^{18}$  is introduced into the bisulfate by secondary exchange. This agrees with the scheme mentioned though it still lacks quantitative confirmation. There are 1 figure, 3 tables, and 5 Slavic references.

ASSOCIATION: Institute for Physical Chemistry imeni L.V. Pisarzhevskiy AN Ukrainian SSR (Institut fizicheskoy khimii im. L.V.Pisarzhevskogo Akademii nauk USSR)

SUBMITTED: March 13, 1957

AVAILABLE: Library of Congress

Card 4/4

5(4)

AUTHORS: Brodskiy, A. I., Corresponding Member, SOV/20-123-1-31/56  
Academy of Sciences, USSR, Franchuk, V. I., Aleksankin, M. M.,  
Lunenok-Burmakina, V. A.

TITLE: Investigation of the Reactions of the Production of Hydrogen Peroxide in the Oxidation of 2-Ethyl Anthrahydroquinone and Isopropanol by the Isotope Method (Issledovaniye reaktsiy obrazovaniya perekisi vodoroda pri okislenii 2-etilantragidrokhinona i izopropanola izotopnym metodom)

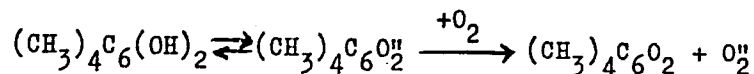
PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 1, pp 117-119 (USSR)

ABSTRACT: The mechanism of the reactions serving as a basis of the industrial methods of producing hydrogen peroxide by the oxidation of 2-ethylantrahydroquinone (or its derivatives) and of isopropyl alcohol by elementary oxygen has hitherto not been investigated. For the purpose of solving this problem the authors investigated the above-mentioned reactions by means of the isotopic method. 1) The oxidation of 2-ethyl hydroquinone and tetrahydro-2-ethyl antrahydroquinone was carried out under conditions similar to those employed in industry. The results obtained by experiments carried out with a mixture 1 : 1 of the

Card 1/4

Investigation of the Reactions of the Production of SOV/20-123-1-31/56  
Hydrogen Peroxide in the Oxidation of 2-Ethyl Anthrahydroquinone and  
Isopropanol by the Isotope Method

aforementioned substances (working mixture) are given in a table. According to the data of this table, the oxygen of the produced hydrogen peroxide originates entirely from the elementary oxygen used for oxidation. The oxygen of the hydroxyl groups of anthrahydroquinone or of alcohol does not take part in the reaction. The mechanism



suggested by R. B. Weissberger (Veysberger) et al. (Ref 2) is hardly probable in the reactions under investigation. Also the intermediate production of transannular peroxides can be excluded. Mechanisms with intermediate production of hydrogen peroxides or radical mechanisms with stripping of a proton from the hydroxyl of the anthrahydroquinone are compatible with the results obtained by the aforementioned experiments. For the purpose of further clarification of the mechanism of the reactions investigated, the authors introduced deuterium into the hydroxyl groups of the 2-ethyl anthrahydroquinone by the

Card 2/4

Investigation of the Reactions of the Production of SOV/20-123-1-31/56  
Hydrogen Peroxide in the Oxidation of 2-Ethyl Anthrahydroquinone and  
Isopropanol by the Isotope Method

exchange with methyl alcohol  $\text{CH}_3\text{OD}$ . Carrying out of this reaction is described in short. The hydrogen in the  $\text{H}_2\text{O}_2$  obtained originates entirely from the hydroxyl groups of the ethyl anthrahydroquinone. According to these data it is possible to exclude also the intermediate production of hydrogen peroxide with addition of the peroxide group into any position (with the exception of 9 or 10). The formation of the hydrogen peroxides in the positions 9 or 10 is not contradictory to the above-discussed observations. By the authors' request V. V. Voyevodskiy, N. N. Bubnov, and N. I. Tikhomirova recorded the spectrum of a solution of 2-ethyl anthrahydroquinone during its oxidation. On this occasion the radical semiquinone was not found. In higher concentrations of a basic medium a distinct spectrum of the radical ion semiquinone was found. Several secondary alcohols are known to oxidize easily by elementary oxygen. In this connection the authors oxidized isopropyl alcohol, in which case the hydrogen peroxide yield amounted to 48%. Also in this case

Card 3/4

Investigation of the Reactions of the Production of SOV/20-123-1-31/56  
Hydrogen Peroxide in the Oxidation of 2-Ethyl Anthrahydroquinone and  
Isopropanol by the Isotope Method

the entire oxygen of hydrogen peroxide originates from  
elementary oxygen, and the oxygen in the hydroxyl of the  
alcohol does not participate. There are 1 table and  
6 references.

ASSOCIATION: Institut fizicheskoy khimii im. L. V. Pisarzhevskogo Akademii  
nauk USSR (Institute for Physical Chemistry imeni  
L. V. Pisarzhevskiy of the Academy of Sciences, UkrSSR)

SUBMITTED: June 21, 1958 .

Card 4/4

LUNENOK, V. A.

~~LATYSHEV, G. D.~~

176

PHASE I BOOK EXPLOITATION SOV/5410

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii, Tashkent, 1959.

Trudy (Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. 449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abdurasulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiy; Ye. N. Lobanov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

Card 1/20

176

Transactions of the Tashkent (Cont.)

SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khanidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

Card 2/20



176

Transactions of the Tashkent (Cont.)

SOV/5410

instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION  
IN ENGINEERING AND GEOLOGY

Lobanov, Ye. M. [Institut yadernoy fiziki UzSSR - Institute of Nuclear Physics AS UzSSR]. Application of Radioactive Isotopes and Nuclear Radiation in Uzbekistan

7

Taksar, I. M., and V. A. Yanushkovskiy [Institut fiziki AN Latv SSR - Institute of Physics AS Latvian SSR]. Problems of the Typification of Automatic-Control Apparatus Based on the Use of Radioactive Isotopes

9

Card 3/20

14

Protskiy, A. I., I. P. Grigorov, I. F. Pranchuk, L. V. Sulima, I. I. Kukhtenko, V. A. Lunenok, A. S. Pomenko, and A. M. Alek-sarkin [Institut khimicheskoy khimii AN SSSR - Institut of Physical Chemistry AS USSR]. Investigation of the Mechanism of Oxidizing Reactions by the Isotopic Method 327

Savvukhina, A. K. [Institut geokhimi i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR - Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy AS USSR]. Methods of Modern Radiochemistry and the Fields of Its Application 334

Ghevelova, E. A., K. V. Chmutov, and P. P. Nazarov. [Insti-tute of Physical Chemistry AS USSR]. Study of the Adsorption of Alkaline and Rare-Earth Elements on Black Earth by the Tracer Atom Method 341

Novikov, A. I. [Taizhikskiy gosudarstvennyy universitet im. V. I. Lenina-Tadzhik State University imeni V. I. Lenin]. Co-precipitation of Small Quantities of Various Cations and Anions With Metal Hydroxides 349

Ampelogova, N. I. [Radiyevyy institut im. V. G. Khlopina

Card 16/20

5(4)

SOV/76-33-7-38/40

AUTHOR: Lunenok-Burnakina, V. A.

TITLE: Third Conference of the Ukrainian Republic on Physical Chemistry

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 7,  
pp 1671 - 1673 (USSR)

ABSTRACT: From December 22 to 25, 1958 the above Conference was held at the Institut fizicheskoy khimii im. L. V. Pisarzhevskogo AN USSR ( Institute of Physical Chemistry imeni L. V. Pisarzhevskiy AS UkrSSR) in Kiyev. It was attended by about 200 specialists in physical chemistry from 49 scientific institutions from 13 cities. 2 plenary and 15 section meetings took place, at which 68 reports were held. The Conference was opened by A. I. Brodskiy who pointed out among other things that several modern methods of investigations are insufficiently applied in the UkrSSR. The following lectures and the subjects of their reports are briefly mentioned: At the plenary meeting - S. S. Urazovskiy (Khar'kov), D. F. Kalinovich, I. N. Frantsevich, I. I. Kovenskiy and M. F. Smolina (Kiyev), N. A. Izmaylov (Khar'kov), A. I. Brodskiy (Kiyev), S. S. Ivanchev and A. I. Yurzhenko (L'vov).

Card 1/4

At the meetings of the section "Mechanism of Chemical Processes

Third Conference of the Ukrainian Republic on Physical Chemistry SOV/76-33-7-38/40

and Molecular Structure" - V. P. Morozov, G. I. Rybakova, N. K. Morozova, V. N. Khlebnikova and D. S. Koval'chuk (Dnepropetrovsk), R. V. Vizgert and Ya. P. Berkman (L'vov), A. F. Rekasheva and E. P. Dar'yeva (Kiyev), M. O. Tereshevich, O. K. Skarre and T. S. Shelekhova (Dnepropetrovsk), N. I. Grishko and Ye. N. Gur'yanova (Dnepropetrovsk, Moscow), N. M. Turkevich and Ye. V. Vladzimirskaya (L'vov'), I. I. Dilung and B. Ya. Dain (Kiyev). At the section "Theory of Solutions" - A. Z. Golik, A. F. Skryshevskiy, P. F. Choplan and V. Ye. Baranovskiy (Kiyev), as well as S. D. Ravikovich (Kiyev). At the section "Phase Equilibria. Physico-Chemical Analysis" - G. V. Samsonov (Kiyev), Ye. Ya. Gorenbeyn (Kiyev), I. O. Galinker, I. M. Rodnyanskiy and N. A. Belova, B. F. Markov and N. Kh. Tumanova (Kiyev), N. A. Izmaylov, N. P. Dzyuba (Khar'kov), N. A. Izmaylov and E. L. Gurevich (Khar'kov). At the section "Electrochemical Processes" - A. S. Afanas'yev, A. N. Burmistrova, V. I. Sotnikova and Ye. N. Chankova (Dnepropetrovsk), A. I. Brodskiy, I. F. Franchuk, V. A. Lunenok-Burmakina, A. S. Fomenko, T. M. Abramova and I. L. Gankina (Kiyev), V. V. Stender and V. G. Selivanov (Dnepropetrovsk).

Card 2/4

Third Conference of the Ukrainian Republic on Physical Chemistry SOV/76-33-7-38/40

G. A. Yemel'yanenko (Dnepropetrovsk), A. S. Afanas'yev and O. Ya. Miroshnichenko (Dnepropetrovsk), N. A. Izmaylov and S. Kh. Mushinska (Khar'kov), L. S. Ivanova and D. N. Strazhesko (Kiyev), M. V. Tovbina and V. P. Musiyenko (Kiyev), as well as Z. Z. Vysotskiy (Kiyev). At the section "Kinetics and Catalysis" N. A. Stukanovskaya and V. A. Royter (Kiyev), M. Ya. Rubanik (Kiyev), Ya. B. Gorokhovatskiy and M. Ya. Rubanik (Kiyev), Yu. A. Singurovskaya, N. P. Radchenko, O. A. Strel'tsov and M. T. Rusov (Kiyev), V. P. Ushakova, G. P. Korneychuk, N. A. Stukanovskaya, V. G. Tretyak, T. G. Voloshina and N. A. Konstantinova (Kiyev), V. V. Shalya (Kiyev), T. P. Korniyenko (Kiyev), D. N. Strazhesko, Z. D. Skripnik, L. L. Chervyatsova and G. F. Yankovska (Kiyev), M. A. Piontkovskaya and I. Ye. Neymark (Kiyev), I. G. Ryss and S. L. Idel's (Dnepropetrovsk), G. Ya. Turovskiy and V. A. Royter (Kiyev), G. P. Korneychuk, V. A. Royter, Ya. V. Zhigaylo and V. Ya. Vol'fson (Kiyev). Some resolutions were adopted concerning the problems of the "Theory of Chemical Structure, Kinetics, and Reactivity" and of the Scientific Fundamentals of the Selection of Catalysts" as well as of the "Scientific Fundamentals of the Synthesis of Mineral Sorbents".

Card 3/4

Third Conference of the Ukrainian Republic on Physical Chemistry SOV/76-33-7-39/4c

ASSOCIATION: Akademiya nauk USSR Institut fizicheskoy khimii im. L. V. Pisarzhevskogo (Academy of Sciences of the UkrSSR, Institute of Physical Chemistry imeni L. V. Pisarzhevskiy)

Card 4/4

5.2600(A)

68171

5(4)

SOV/20-129-6-38/69

AUTHORS: Lunenok-Burmakina, V. A., Brodskiy, A. I., Academician,  
AS USSR

TITLE: Investigation of the Mechanism of the Oxidation of Some In-organic Substances by Persulfate

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 6, pp 1335-1338 (USSR)

ABSTRACT: The authors refer to the various opinions expressed in publications on the reaction of peroxides (Refs 2-13), among others to one of their own, which was elaborated in collaboration with I. F. Franchuk (Ref 1). For the purpose of explaining what happens in the reaction  $K_2S_2O_8 + H_2O_2 \rightarrow 2KHSO_4 + O_2$ , the following three systems differently tagged by  $O^{18}$  were investigated:  $K_2S_2\tilde{O}_8 + H_2O_2 + H_2O$ ;  $K_2S_2O_8 + H_2\tilde{O}_2 + H_2O$ ;  $K_2S_2O_8 + H_2O_2 + H_2\tilde{O}$ . The liberated oxygen was investigated by means of spectroscopic analysis as to its  $O^{18}$  content. The

Card 1/4

68171

SOV/20-129-6-38/69

Investigation of the Mechanism of the Oxidation of Some Inorganic Substances  
by Persulfate

investigation of the  $O^{18}$  content of other substances has already been described by reference 1. Table 1 shows that the liberated oxygen has the same isotopic composition as  $H_2O_2$ , that the oxygen of bisulfate formed has the composition of persulfate, and that the oxygen of water does not take part in the reaction. The change of the acidity of the medium had no influence on the reaction. Further, the following reactions were investigated: 1)  $K_2S_2O_8 + 2AgNO_3 + 2H_2O \rightarrow Ag_2O_2 + 2KHSO_4 + 2HNO_3$ . Here  $AgO^*$  was formed only from  $H_2O^*$ , whereas  $O^{18}$  contained in  $K_2S_2O_8$  passes over completely into the bisulfate. The oxidation of Ag thus takes place according to the electron mechanism without a transfer of oxygen.  $AgO$  is no real peroxide. 2) The same result was obtained in the reaction

Card 2/4



68171

SOV/20-129-6-38/69

Investigation of the Mechanism of the Oxidation of Some Inorganic Substances  
by Persulfate

$\text{MnCl}_2 + \text{K}_2\text{S}_2\text{O}_8 + 3\text{H}_2\text{O} \longrightarrow \text{H}_2\text{MnO}_3 + 2\text{KHSO}_4 + 2\text{HCl}$ , and the difference in the binding of the three O-atoms in  $\text{H}_2\text{MnO}_3$  was confirmed (Ref 18). One of the O-atoms is easily exchangeable so that the formula  $\text{MnO}_2 \cdot \text{H}_2\text{O}$  is more correct. 3) The reaction  $\text{K}_2\text{S}_2\text{O}_8 + \text{PbS} \longrightarrow \text{PbSO}_4 + \text{K}_2\text{SO}_4 + \text{S}$  was carried out with a solution of not tagged persulfate in water tagged with  $\text{O}^{18}$ . The oxygen of water did not react. Also in this case the PbS is oxidized by the persulfate according to the electron mechanism. This was confirmed by experiments with PbS which was tagged with  $\text{S}^{35}$ . The liberated sulfur contained the entire  $\text{S}^{35}$ , whereas  $\text{PbSO}_4$  and  $\text{K}_2\text{SO}_4$  were not active. Unlike the oxidation with  $\text{H}_2\text{O}_2$ , that with persulfate was accompanied in all reactions investigated by a separation of the -O-O- bond, and takes place by a transfer of electrons, but not of O-atoms from the oxidizing substance to the substance to be oxidized. The authors

Card 3/4

Investigation of the Mechanism of the Oxidation of Some Inorganic Substances  
by Persulfate

68171  
SOV/20-129-6-38/69

thank A. P. Potemskaya, E. G. Veselaya, and T. A. Vovk for  
their collaboration. There are 1 table and 19 references, 5  
of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk USSR  
(Institute of Physical Chemistry of the Academy of Sciences  
of the Ukrainskaya SSR)

SUBMITTED: September 5, 1959

Card 4/4

LUNENOK, V. A.

S/CS:62/000/001/004/067  
B156/B101

AUTHORS: Brodskiy, A. I., Gragerov, I. P., Franchuk, I. F., Sulima, L.V.,  
Kukhtenko, I. I., Lunenok, V. A., Pomenko, A. S.,  
Aleksankin, M. M.

TITLE: Mechanism of oxidation reactions investigated by the isotopic  
method

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 1, 1962, 60, abstract  
1B439 (Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu  
atomn. energii, v. 2. Tashkent, AN UzSSR, 1960, 327-334)

TEXT: A review of work done by the authors on studying the mechanism of  
certain oxidation reactions using isotopes: the oxidation of organic  
compounds with chromyl chloride, the mechanism of anthranil regrouping, the  
process of oxidation of aniline, o-anisidine and p-nitroaniline with Caro  
acid. The mechanism whereby hydrogen peroxide and certain persulfate-type  
inorganic peroxide compounds are formed and converted is examined; so also  
are the kinetics of isotopic exchange in substituted benzoic acids,

Card 1/2

Mechanism of oxidation reactions ...

3  
S/081/62/000/001/004/067  
B156/B101

benzaldehydes, alcohols, naphthalenes and nitro compounds with  $H_2O^{18}$ .  
18 references. [Abstracter's note: Complete translation.] ✓

Card 2/2